Nearshore Health and Non-Point Source Pollution

funded by the Great Lakes Restoration Initiative

The GLRI Action Plan calls for action to identify sources and reduce loadings of nutrients and soil erosion as well as improve public health protection at beaches. NOAA's projects listed below support efforts to improve nearshore areas and reduce nonpoint source pollution in the waters of the Great Lakes.

Identifying Land Use Indicators and Tipping Points

GLRI funds are supporting a five-year collaboration among NOAA's Great Lakes Environmental Research Laboratory (GLERL), the Cooperative Institute for Limnology and Ecosystems Research (CILER), and multiple Great Lakes universities to identify "tipping points" of ecosystem health. Scientific research has identified the stressors that multiple Great Lakes resources, ranging from watersheds to high-priority fish species, can withstand and remain functional. Beyond these thresholds, or "tipping points," ecosystem function is severely impaired. This project provides science-based indicators to strengthen Great Lakes decision-making and management. It provides coastal land use planners and managers with the information and tools they need to develop policies, ordnances, land protection programs, and restoration priorities that preserve the Great Lakes ecosystem for generations to come.

Nutrient Runoff Risk Advisory Forecast Tool

Elevated nutrient runoff from non-point sources contribute to degraded water quality in the Great Lakes. This nutrient runoff risk advisory forecast tool is being developed to alert farmers in the Maumee and Saginaw watersheds of the potential for nutrient runoff events 3 to 10 days in advance, which will help inform decisions about when to apply fertilizer so that more fertilizer stays on the fields and nutrient runoff is reduced.

LaMP Support and Land Cover Assessment

GLRI funds are supporting the Coastal Change Analysis Program (C-CAP) to update land cover assessments for the five Great Lakes. C-CAP produces a nationally standardized database of land cover and land change information for the coastal regions of the U.S. Having updated standardized data on land cover, land use change and accurate inventories of the coastal areas, wetlands and the adjacent uplands in the tributaries that effect each lake is a priority project identified by all five LaMPs and provides foundational information needed to make decisions about other LaMP activities and projects.

Improving Coastal Health, Human Health, and Beach Forecasting

Residents and tourists alike are drawn to Great Lakes beaches, nearshore waters, and tributaries. Unfortunately, these waters and shorelines can experience unsafe levels of *E. coli* and growth of Harmful Algal Blooms (HABs), both of which can be detrimental to human health and frequently force closure of beaches. NOAA's Great Lakes Environmental Research Laboratory (GLERL) is working to address these problems. GLRI funds are helping to support GLERL's work to develop models that forecast the locations of HABs and *E. coli* concentrations, in turn giving resource managers the tools to make more timely actions to protect human health.

For more information contact:
Rebecca Held Knoche
NOAA GLRI Program Coordinator
301-563-1166 rebecca.held@noaa.gov

Great Lakes RESTORATION